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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/071,301	02/08/2002	Eiji Hamamoto	020588	1113

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EXAMINER	
HON, SOW FUN	

ART UNIT	PAPER NUMBER
1772	

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/071,301	HAMAMOTO ET AL.	
	Examiner	Art Unit	
	Sow-Fun Hon	1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 July 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Withdrawn Rejections

1. The 35 U.S.C. 103(a) rejections of claims 1-24 over Schuler as the primary reference, are withdrawn due to Applicant's amendment dated 7/31/06.

New Rejections

Claim Objections

2. Claim 4 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The transparent protective film is already defined as a triacetylcellulose film in independent claim 1.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, 3-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizaki (Abstract, JP 402135402A) in view of Kobayashi (US 6,512, 562) and Buzzell (US 3,531,351).

Regarding claims 1, 3-4, Ishizaki teaches a polarizing plate comprising a polyvinyl alcohol-based polarizing film and a protective film formed from cellulose

acetate (purpose), which is transparent, bonded to at least one surface of the polyvinyl alcohol-based polarizing film through an adhesive layer, wherein the adhesive layer comprises boron acid (constitution), which is (i) a water-soluble crosslinking agent capable of crosslinking a vinyl alcohol-based polymer to the polarizing film, as defined by Applicant's specification (original claim 3), wherein the adhesive layer does not comprise polyvinyl alcohol, the latter being absent from the description. Ishizaki fails to teach that the polyvinyl alcohol-based polarizing film contains a dichroic substance.

However, Kobayashi teaches a polarizing plate comprising a polyvinyl alcohol-based polarizing film containing a dichroic substance, for the purpose of utilizing the polarizing properties of the dichroic substance, prepared by a dichroic substance treatment (absorbing and orienting dichroic dyes onto polyvinyl alcohol-based film, column 5, lines 19-24).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used a dichroic substance-containing polyvinyl alcohol-based polarizing film as the polyvinyl alcohol-based polarizing film of Ishizaki, in order to utilize the polarizing properties of the dichroic substance, as taught by Kobayashi.

Ishizaki fails to teach that the cellulose acetate transparent protective film is a triacetylcellulose film.

However, Kobayashi teaches a that a triacetylcellulose film is exclusively employed as a transparent protective film for the polarizing film (polarizer, column 1, lines 37-40), for the purpose of taking advantage of the physical properties of the film.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used a triacetylcellulose film as the cellulose acetate transparent protective film for the polarizing film of Ishizaki, in order to utilize the physical properties of the triacetylcellulose, as taught by Kobayashi.

Ishizaki in view of Kobayashi fails to teach that the adhesive layer further comprises (ii) a catalyst.

However, Buzzell teaches that polyvinyl alcohol-based polymer is crosslinked by boric acid as a crosslinking agent (capable of reacting with the alcoholic hydroxyls of the polyvinyl alcohol, column 5, lines 40-50), which is water-soluble as defined by Applicant's specification (original claim 3); aided by a catalyst (column 5, lines 71-76).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have further provided (ii) a catalyst in the adhesive layer of Ishizaki in view of Kobayashi, in order to aid the water-soluble crosslinking agent present, as taught by Buzzell.

Regarding claim 5, Ishizaki fails to teach that the cellulose film has a saponified surface.

However, Kobayashi teaches that when the triacetylcellulose film has a saponified surface (column 41, lines 63-67), for the purpose of providing a surface receptive to the application of the water-soluble adhesive (column 1, lines 25-30).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have provided the triacetylcellulose film of Ishizaki in

view of Kobayashi, with a saponified surface, in order to provide a surface receptive to the application of the water-soluble adhesive, as taught by Kobayashi.

Regarding claims 6-7, Ishizaki teaches a polarizing plate comprising a polyvinyl alcohol-based polarizing film and a protective film formed from cellulose acetate (purpose), which is transparent, bonded to at least one surface of the polyvinyl alcohol-based polarizing film through an adhesive layer, wherein the adhesive layer comprises boron acid (constitution), which is (i) a water-soluble crosslinking agent capable of crosslinking a vinyl alcohol-based polymer to the polarizing film, as defined by Applicant's specification (original claim 3), wherein the adhesive layer does not comprise polyvinyl alcohol, the latter being absent from the description. Ishizaki fails to teach that the polyvinyl alcohol-based polarizing film contains a dichroic substance, that the cellulose acetate transparent protective film is a triacetylcellulose film, or that an optical member of a laminate is made by providing at least one additional optical layer on the polarizing plate, wherein the additional optical layer is other than a polarizing layer and is applied to at least one of the polarizing film side and the transparent protective film side of the polarizing plate.

However, Kobayashi teaches a polarizing plate comprising a polyvinyl alcohol-based polarizing film containing a dichroic substance, for the purpose of utilizing the polarizing properties of the dichroic substance, prepared by a dichroic substance treatment (absorbing and orienting dichroic dyes onto polyvinyl alcohol-based film, column 5, lines 19-24). Kobayashi teaches that a triacetylcellulose film is exclusively employed as a transparent protective film for the polarizing film (polarizer, column 1,

lines 37-40), for the purpose of taking advantage of the physical properties of the specific cellulose acetate. Kobayashi teaches that an optical member of a laminate is made by providing at least one optical layer on the polarizing plate, wherein the additional optical layer is a reflective layer (reflective plate, column 23, lines 43-44), for the purpose of providing reflective properties to the polarizing plate.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used a dichroic substance-containing polyvinyl alcohol-based polarizing film as the polyvinyl alcohol-based polarizing film of Ishizaki, in order to utilize the polarizing properties of the dichroic substance; to have used a triacetylcellulose film as the cellulose acetate transparent protective film of Ishizaki, in order to utilize the physical properties of the triacetyl cellulose; and to have made an optical member by providing a reflective layer on the polarizing plate of Ishizaki in view of Kobayashi, in order to provide a reflective polarizing plate, as taught by Kobayashi.

Ishizaki in view of Kobayashi fails to teach that the adhesive layer further comprises (ii) a catalyst.

However, Buzzell teaches that polyvinyl alcohol-based polymer is crosslinked by boric acid as a crosslinking agent (capable of reacting with the alcoholic hydroxyls of the polyvinyl alcohol, column 5, lines 40-50), which is water-soluble as defined by Applicant's specification (original claim 3); aided by a catalyst (column 5, lines 71-76).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have further provided (ii) a catalyst in the adhesive

layer of Ishizaki in view of Kobayashi, in order to aid the water-soluble crosslinking agent present, as taught by Buzzell.

Regarding claim 8, Ishizaki teaches a polarizing plate comprising a polyvinyl alcohol-based polarizing film and a protective film formed from cellulose acetate (purpose), which is transparent, bonded to at least one surface of the polyvinyl alcohol-based polarizing film through an adhesive layer, wherein the adhesive layer comprises boron acid (constitution), which is (i) a water-soluble crosslinking agent capable of crosslinking a vinyl alcohol-based polymer to the polarizing film, as defined by Applicant's specification (original claim 3), wherein the adhesive layer does not comprise polyvinyl alcohol, the latter being absent from the description. Ishizaki fails to teach that the polyvinyl alcohol-based polarizing film contains a dichroic substance, that the cellulose acetate is a triacetylcellulose, or that the polarizing plate is part of a liquid crystal display comprising a liquid crystal cell, wherein said polarizing plate is arranged on at least one surface of the liquid crystal cell.

However, Kobayashi teaches a polarizing plate comprising a polyvinyl alcohol-based polarizing film containing a dichroic substance, for the purpose of utilizing the polarizing properties of the dichroic substance, prepared by a dichroic substance treatment (absorbing and orienting dichroic dyes onto polyvinyl alcohol-based film, column 5, lines 19-24). Kobayashi teaches a that a triacetylcellulose film is exclusively employed as a transparent protective film for the polarizing film (polarizer, column 1, lines 37-40), for the purpose of taking advantage of the physical properties of the film. Kobayashi teaches that the polarizing plate is used in a liquid crystal display comprising

a liquid crystal cell and said polarizing plate arranged on at least one side, and hence one surface, of the liquid crystal cell (column 48, lines 63-66), for the purpose of providing the desired optical display.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used a dichroic substance-containing polyvinyl alcohol-based polarizing film as the polyvinyl alcohol-based polarizing film of Ishizaki, in order to utilize the polarizing properties of the dichroic substance, as taught by Kobayashi; to have used a triacetylcellulose film as the cellulose acetate transparent protective film for the polarizing film of Ishizaki, in order to utilize the physical properties of the triacetylcellulose; and to have used the polarizing plate of Ishizaki in view of Kobayashi, in a liquid crystal display comprising a liquid crystal cell, wherein said polarizing plate is arranged on at least one surface of the liquid crystal cell, in order to provide the desired optical display, as taught by Kobayashi.

Ishizaki in view of Kobayashi fails to teach that the adhesive layer further comprises (ii) a catalyst.

However, Buzzell teaches that polyvinyl alcohol-based polymer is crosslinked by boric acid as a crosslinking agent (capable of reacting with the alcoholic hydroxyls of the polyvinyl alcohol, column 5, lines 40-50), which is water-soluble as defined by Applicant's specification (original claim 3); aided by a catalyst (column 5, lines 71-76).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have further provided (ii) a catalyst in the adhesive

layer of Ishizaki in view of Kobayashi, in order to aid the water-soluble crosslinking agent present, as taught by Buzzell.

Regarding claim 9, Ishizaki in view of Kobayashi fails to teach that the adhesive layer is formed from a solution containing at least 0.1 wt % of the crosslinking agent of the water-soluble crosslinking agent.

However, Buzzell teaches approximately 1 wt % of the water-soluble crosslinking agent (6 cc of glyoxal crosslinking agent in 900 g water, column 6, lines 50-60), which is within the claimed range of at least 0.1 wt %, for the purpose of providing the desired amount of crosslinking.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have formed the adhesive layer of Ishizaki in view of Kobayashi from a solution containing at least 0.1 wt % of the water-soluble crosslinking agent, in order to provide the desired amount of crosslinking, as taught by Buzzell.

Regarding claim 10, Ishizaki teaches that the adhesive layer has a thickness of 2 to 5 microns (constitution). Ishizaki in view of Kobayashi fails to teach that the adhesive layer is formed from a solution containing at least 10 wt % of the crosslinking agent of the water-soluble crosslinking agent.

However, Buzzell teaches approximately 1 wt % of the water-soluble crosslinking agent (6 cc of glyoxal crosslinking agent in 900 g water, column 6, lines 50-60), for the purpose of providing the desired level of crosslinking for a very thin adhesive layer (distinct layer not visible, column 4, lines 34-41). More water-soluble crosslinking agent is required to provide a thicker adhesive layer with the same level of crosslinking, as is

well established in the art. Thus, it would have been obvious to one of ordinary skill in the art to have optimized the process of making the adhesive layer from a solution of water-soluble crosslinking agent, wherein the solution contains at least 10 wt.% of the water-soluble crosslinking agent, for the purpose of providing the desired thickness of adhesive layer with the desired amount of crosslinking.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have optimized the process of making the adhesive layer of Ishizaki in view of Kobayashi and Buzzell, to form the adhesive layer from a solution containing at least 10 wt.% of water-soluble crosslinking agent, in order to provide the desired thickness of adhesive layer with the desired level of crosslinking, as is well-established in the art.

Regarding claim 11, Ishizaki fails to teach that the adhesive layer has a thickness of at most 0.5 microns.

However, Kobayashi teaches that the adhesive layer has a thickness of between 0.05 and 1 micron (auxiliary layer can be an easily adhered layer, thickness of said auxiliary layer, column 6, lines 64-67, thickness, column 7, lines 1-2), which overlaps the claimed range of at most 0.5 microns, for the purpose of providing the desired thin polarizing plate.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have provided the adhesive layer of Ishizaki with a thickness within the range of at most 0.5 microns, in order to obtain a thin polarizing plate, as taught by Kobayashi.

Regarding claim 12, Ishizaki teaches that the adhesive layer has a thickness of 2 to 5 microns (constitution), which is within the claimed range of at least 0.02 microns.

Regarding claims 13-14, Ishizaki teaches a process of producing a polarizing plate comprising a polyvinyl alcohol-based polarizing film and a protective film formed from cellulose acetate (purpose), which is transparent, bonded to at least one surface of the polyvinyl alcohol-based polarizing film, comprising applying an adhesive layer comprising boron acid (constitution), which is a water-soluble crosslinking agent capable of crosslinking a vinyl alcohol-based polymer to the polarizing film, as defined by Applicant's specification (original claim 3), to the polarizing film, wherein the adhesive layer does not comprise polyvinyl alcohol, the latter being absent from the description (constitution), and bonding the transparent protective film to the polarizing film (polarizing plate formed by adhering a protective film of a cellulose acetate system to one surface of a polarizing film consisting of a polyvinyl alcohol system (purpose). Ishizaki fails to teach that the polyvinyl alcohol-based polarizing film contains a dichroic substance, let alone that the adhesive layer is applied after a dichroic substance treatment.

However, Kobayashi teaches a polarizing plate comprising a polyvinyl alcohol-based polarizing film containing a dichroic substance, for the purpose of utilizing the polarizing properties of the dichroic substance, prepared by a dichroic substance treatment (absorbing and orienting dichroic dyes onto polyvinyl alcohol-based film, column 5, lines 19-24), whereby the adhesive layer is applied after the dichroic

substance treatment (after dyeing and stretching, subsequently by adhering the resulting polarizer with the protective film employing adhesives, column 7, lines 3-15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have modified the process of forming the polarizing plate of Ishizaki, by inserting a step of subjecting the polyvinyl alcohol-based film to a dichroic substance treatment prior to the step of applying the adhesive layer, in order to provide the polyvinyl alcohol-based film with the polarizing properties of the dichroic substance, as taught by Kobayashi.

Regarding claim 15, Kobayashi teaches that the adhesive layer is applied to the polarizing film after the polarizing film has been crosslinked and dried (immersed in an aqueous boric acid containing solution comprised of potassium iodide/boric acid, washed with pure water, and subsequently dried to form a polarizer, column 41, lines 3-10), for the purpose of providing a well-formed film laminate.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have modified the process of forming the polarizing plate of Ishizaki in view of Kobayashi, by applying the adhesive layer to the polarizing film comprising the dichroic substance after it has been crosslinked and dried, in order to provide a well-formed film laminate, as taught by Kobayashi.

Regarding claim 16, Ishizaki in view of Kobayashi fails to teach that the adhesive layer further comprises a catalyst.

However, Buzzell teaches that polyvinyl alcohol-based polymer is crosslinked by boric acid as a crosslinking agent (capable of reacting with the alcoholic hydroxyls of the

polyvinyl alcohol, column 5, lines 40-50), which is water-soluble as defined by Applicant's specification (original claim 3); aided by a catalyst (column 5, lines 71-76).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have further provided a catalyst in the adhesive layer of Ishizaki in view of Kobayashi, in order to aid the water-soluble crosslinking agent present, as taught by Buzzell.

Regarding claims 17-24, Buzzell teaches that the catalyst is usually an acid (column 5, lines 71-72) such as hydrochloric acid (column 6, line 1). Thus the (ii) catalyst in the adhesive layer of Ishizaki in view of Kobayashi and Buzzell, is an acid, such as a hydrochloric acid, for the purpose of providing the desired catalysis, as taught by Buzzell.

Response to Arguments

4. Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number is (571)272-1492. The examiner can normally be reached Monday to Friday from 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached at (571)272-1498. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S. Hon

Sow-Fun Hon

10/12/06

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10/12/06